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Alberto Angel Fernandez

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Fay Kaplun & Marcin, LLP
150 Broadway, suite 702
New York, NY 10038

EXAMINER

RAMANA, ANURADHA

ART UNIT

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3775

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 21-22, 24-34, 36-46, and 48-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahners (US 6,955,677).

Dahners discloses a bone fixation system including: a bone plate or fixation device 60; bone engaging members or screws 10 received in apertures A of the fixation device, screws 10 having heads 40 that are at least partially spherical; and apertures A having an hour-glass shape and a lower non-threaded portion 95 wherein a screw head can have any number of threads and any type of design (Figs. 2A-2B, col. 5, lines 4-67 and col. 6, lines 1-12).

Dahners also discloses isolated non-thread protrusions in the apertures of the bone plate that are configured and dimensioned to have the same pitch and mate with the threads on the bone screw head by being tappable wherein the protrusions can be in the form of pegs, bristles or tines or "spikes" (col. 6, lines 63-67, col. 7 and col. 8, lines 1-43).

Dahners discloses the screw shaft to have a thread design that could be a multi-start design, i.e., double-entry. As noted above, Dahners discloses that the screw head could have any type of thread design.

Although Dahners does not specifically disclose the head to have a multi-start design, such as a double-entry thread, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, to have tried a multi-start design, such as a double entry thread, since there are a finite number of identified, predictable potential solutions and one of ordinary skill in the art could have pursued the

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known options within his or her technical grasp with a reasonable expectation of success.

Regarding claims 25, 38, and 49, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a number of protrusions between 2 and 30, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 24, 37, and 48, it is noted that Dahners discloses the density of protrusions to vary from 5% to 65%. For a low density of protrusions, for e.g., 5% to 40%, the opening would have a second area without protrusions, the second area being greater than a first area having protrusions.

Claims 23, 35, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahners (6,955,677) in view of Thramann (US 5,360,448).

Dahners discloses all elements of the claimed invention except for the pitch of the threads on the screw head being substantially the same as the pitch of the threads on the screw shank.

Thramann teaches providing identical pitch to threads on a screw head and the threads on the screw shank so that the proximal threads track the grooves of the distal thread (col. 10, lines 10-23).

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the head of the Dahners screw with threads having the same pitch as the threads on its shank, as taught by Thramann so that the proximal threads could track the grooves of the distal threads.

The method steps of claims 23 and 35 are rendered obvious by the above discussion.

Response to Arguments

Applicant's arguments submitted under "REMARKS" in the response filed on November 24, 2008 have been considered but are not persuasive for the following reasons.

Dahners discloses isolated non-thread protrusions that are configured and dimensioned to have the same pitch and mate with the threads of the bone screw head by being tappable by the bone screw head. It is the Examiner's position that when the protrusions are tapped by the screw head, they would have the same pitch as the threads on the screw head.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anu Ramana whose telephone number is (571) 272-4718. The examiner can normally be reached on Monday through Friday between 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on (571) 272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR

January 24, 2009

/Anu Ramana/

Primary Examiner, Art Unit 3775